

**Notice of Allowability****Application No.**

10/540,956

**Applicant(s)**

TYAGI ET AL.

**Examiner**

Vinod Kumar

**Art Unit**

1638

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/15/2008 & Interview of September 3, 2008.
2. ☒ The allowed claim(s) is/are 35-45.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date SAME.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with William H. Logsdon on September 3, 2008.

In the claims:

Claim 35 (amended) A method of increasing abiotic stress tolerance in a plant, said method comprising transforming said plant with a recombinant vector comprising a polynucleotide sequence set forth in SEQ ID NO: 1 or a variant thereof coding for a polypeptide sequence as shown in SEQ ID NO: 2, and expressing the polynucleotide sequence or the variant thereof to yield a transformed plant[s].

Claim 37 (amended) The method of claim 35, wherein said method provides said transformed plant[s] having increased tolerance to cold stress relative to an untransformed plant of the same plant species.

Claim 38 (amended) The method of claim 35, wherein said method provides said transformed plant[s] having increased tolerance to drought stress relative to an untransformed plant of the same plant species.

Claim 39 (amended) The method of claim 35, wherein said method provides said transformed plant[s] having increased tolerance to salt stress relative to an untransformed plant of the same plant species.

Applicant authorized amendments to claims 35, 37, 38 and 39 to obviate potential issues under 35 U.S.C. 112, 2<sup>nd</sup> paragraph.

### ***REASONS FOR ALLOWANCE***

2. The following is an examiner's statement of reasons for allowance: The following is an examiner's statement of reasons for allowance: Applicant has developed a method of making a transgenic plant having increased abiotic stress tolerance, comprising introducing and expressing a polynucleotide sequence (SEQ ID NO: 1, isolated from rice) encoding the polypeptide of SEQ ID NO: 2.

The closest prior art of Mukhopadhyay et al. (NCBI, GenBank Sequence Accession No. AF140722, Published June 7, 2000) disclose a polynucleotide sequence encoding a polypeptide which has 98.5% sequence identity to instant SEQ ID NO: 2. Mukhopadhyay et al. amino acid sequence has two amino acid substitutions compared to instant SEQ ID NO: 2. The threonine at position 131 in the instant SEQ ID NO: 2 is changed to tyrosine in Mukhopadhyay et al. amino acid sequence. Likewise, the asparagine at position 142 in the instant SEQ ID NO: 2 is changed to lysine (non-conservative substitution) in Mukhopadhyay et al. amino acid sequence.

Furthermore, Mukhopadhyay et al. do not teach abiotic (cold, drought or salt) stress tolerance properties of their amino acid sequence. Mukhopadhyay et al. also do not teach making abiotic stress tolerant plants overexpressing their polypeptide.

Accordingly, the claimed invention is free of the prior art, has a utility, is enabled, and is adequately described.

Any comments considered necessary by applicant must be submitted no later than

the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusions***

3. Claims 35-45 are allowed.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod Kumar whose telephone number is (571) 272-4445.

The examiner can normally be reached on 8:30 a.m. to 5:00 pm.  
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phuong T. Bui/

Primary Examiner, Art Unit 1638